
1. PRODUCT AND COMPANY IDENTIFICATION**1.1 Product identifiers**

Product name : Acrylonitrile

Product Number : 110213
Brand : Aldrich
Index-No. : 608-003-00-4

CAS-No. : 107-13-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheetCompany : Sigma-Aldrich Canada Co.
2149 Winston Park Drive
OAKVILLE ON L6H 6J8
CANADATelephone : +1 9058299500
Fax : +1 9058299292**1.4 Emergency telephone number**

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture****GHS Classification in accordance with Hazardous Products Regulations (HPR) (SOR/2015-17)**

Flammable liquids (Category 2), H225

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapour.

Precautionary statement(s)

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233

Keep container tightly closed.

P240

Ground and bond container and receiving equipment.

P241

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242

Use non-sparking tools.

P243

Take action to prevent static discharges.

P280

Wear protective gloves/ eye protection/ face protection.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water.

P370 + P378

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to

P403 + P235
P501

extinguish.
Store in a well-ventilated place. Keep cool.
Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Lachrymator., Vesicant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : Vinyl cyanide

Formula : C₃H₃N

Molecular weight : 53.06 g/mol

CAS-No. : 107-13-1

EC-No. : 203-466-5

Index-No. : 608-003-00-4

Registration number : 01-2119474195-34-XXXX

Hazardous components

| Component | Classification | Concentration* |
|----------------------|--|----------------|
| Acrylonitrile | | |
| | Flam. Liq. 2; Acute Tox. 3; Skin Irrit. 2; Eye Dam. 1; Skin Sens. 1; Carc. 1B; Repr. 2; STOT SE 3; Aquatic Acute 2; Aquatic Chronic 2; H225, H301 + H311 + H331, H315, H317, H318, H335, H350, H361, H411 | 90 - 100 % |
| * Weight percent | | |

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Light sensitive.

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

| Components | CAS-No. | Value | Control parameters | Basis |
|---------------|---|-------|--------------------|---|
| Acrylonitrile | 107-13-1 | TWA | 2 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| Remarks | Central Nervous System impairment Lower Respiratory Tract irritation Confirmed animal carcinogen with unknown relevance to humans Danger of cutaneous absorption | | | |

| | | | | |
|--|--|-------|--------------------------------|---|
| | | TWA | 2 ppm 4.3 mg/m ³ | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL) |
| Substance may be readily absorbed through intact skin | | | | |
| | | TWA | 2 ppm | Canada. British Columbia OEL |
| IARC '2B' applies to substances deemed possibly carcinogenic to humans. Contributes significantly to the overall exposure by the skin route. | | | | |
| | | TWAEV | 2 ppm 4.3 mg/m ³ | Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants |
| A substance which may not be recirculated in accordance with section 108 A substance to which exposure must be reduced to a minimum in accordance with section 42 Skin (percutaneous) Carcinogenic effect suspected in humans | | | | |
| | | TWAEV | 2 ppm 4.3 mg/m ³ | Canada. Occupational Health and Safety Act - Part 11: Exposure Values for Acrylonitrile, Benzene and Mercury |
| Skin The values listed in this part apply to workplaces to which the designated substance regulation does not apply | | | | |
| | | TWA | 2 ppm | Canada. Ontario OELs |
| Skin | | | | |
| | | C | 10 ppm | Canada. Ontario OELs |
| Skin | | | | |

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact

Material: Chloroprene

Minimum layer thickness: 0.6 mm

Break through time: 37 min

Material tested:Camapren® (KCL 722 / Aldrich Z677493, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|---|---|
| a) Appearance | Form: clear, liquid Colour: colourless |
| b) Odour | No data available |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | Melting point/range: -83 °C (-117 °F) - lit. |
| f) Initial boiling point and boiling range | 77 °C (171 °F) - lit. |
| g) Flash point | -5 °C (23 °F) - closed cup |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 17 %(V) Lower explosion limit: 3 %(V) |
| k) Vapour pressure | 115 hPa (86 mmHg) at 20 °C (68 °F) |
| l) Vapour density | 1.83 - (Air = 1.0) |
| m) Relative density | 0.806 g/cm ³ |
| n) Water solubility | soluble |
| o) Partition coefficient: n-octanol/water | log Pow: 0.25 |
| p) Auto-ignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | No data available |

t) Oxidizing properties No data available

9.2 Other safety information

Surface tension 27.3 mN/m at 24 °C (75 °F)

Relative vapour density 1.83 - (Air = 1.0)

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

Contains the following stabiliser(s):

Mequinol (≥ 0.0035 - ≤ 0.0045 %)

10.3 Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Oxidizing agents, Copper

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x)

Other decomposition products - No data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 81 mg/kg

LC50 Inhalation - Rat - male - 4 h - 2.09 mg/l

LD50 Dermal - Rabbit - 226 mg/kg

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Skin irritation

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Maximisation Test - Guinea pig

Result: May cause sensitisation by skin contact.

(OECD Test Guideline 406)

Germ cell mutagenicity

No data available

Carcinogenicity

Possible human carcinogen

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Acrylonitrile)

Reproductive toxicity

Suspected human reproductive toxicant

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: AT5250000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence (Mequinol)

12. ECOLOGICAL INFORMATION**12.1 Toxicity**

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 7.4 - 10.0 mg/l - 48 h

12.2 Persistence and degradability

Biodegradability Biotic/Aerobic - Exposure time 28 d

12.3 Bioaccumulative potential

Bioaccumulation Lepomis macrochirus - 14 d
- 9.94 µg/l

Bioconcentration factor (BCF): 48

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**TDG (Canada)**

UN number: 1093 Class: 3 (6.1) Packing group: I

Proper shipping name: ACRYLONITRILE, STABILIZED

IMDG

UN number: 1093 Class: 3 (6.1) Packing group: I EMS-No: F-E, S-D
Proper shipping name: ACRYLONITRILE, STABILIZED
Marine pollutant:yes

IATA

UN number: 1093 Class: 3 (6.1) Packing group: I
Proper shipping name: Acrylonitrile, stabilized
IATA Passenger: Not permitted for transport

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

| | |
|--------------------|---|
| Acute Tox. | Acute toxicity |
| Aquatic Acute | Acute aquatic toxicity |
| Aquatic Chronic | Chronic aquatic toxicity |
| Carc. | Carcinogenicity |
| Eye Dam. | Serious eye damage |
| Flam. Liq. | Flammable liquids |
| H225 | Highly flammable liquid and vapour. |
| H301 + H311 + H331 | Toxic if swallowed, in contact with skin or if inhaled. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H335 | May cause respiratory irritation. |
| H350 | May cause cancer. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H411 | Toxic to aquatic life with long lasting effects. |
| Repr. | Reproductive toxicity |
| Skin Irrit. | Skin irritation |
| Skin Sens. | Skin sensitisation |
| STOT SE | Specific target organ toxicity - single exposure |

Further information

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